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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/882,561	07/03/97	EDGE	C	S3492USA1A

LM01/0318

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EXAMINER
NGUYEN, K

ART UNIT	PAPER NUMBER
2772	_6_

DATE MAILED: 03/18/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

☒ Responsive to communication(s) filed on *Jul 3, 1997*_____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire ____3____ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-24*_____ is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-24*_____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

　☐ All ☐ Some* ☐None of the CERTIFIED copies of the priority documents have been

　　☐ received.

　　☐ received in Application No. (Series Code/Serial Number) _____ .

　　☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

　*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). ___4___

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 3-19, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"ICC Profile Format Specification" (Version 3.3, November 11, 1989) in view of Lindbloom

"Accurate Color Reproduction for Computer Graphics Applications" (Computer Graphics,

Volume 23, Number 3, July 1989).

With regard to claims 1 and 11, ICC Profile Format Specification discloses for use in

transforming colors between color imaging systems, a color mapping method comprising: using

forward transformation profiles (page 2, Introduction) that characterize the color imaging systems

to generate respective sets of device-independent color values for the color imaging systems (page

101, Annex E). ICC profile does not discloses calculating color conversions. However,

Lindbloom discloses calculating color conversions by recursively reducing differences between the

sets of device-independent color values (page 120, section 6. Algorithm Description); and

constructing a color map describing a relationship between the color imaging systems using the

color conversions (page 123, section 7.1. Color Mapped Applications). It would have been

obvious to one of ordinary skill in the art to apply the color conversion process as taught by Lindbloom.

With regard to claims 3, 15 and 21, ICC Profile Format discloses using an error function for calculating the color conversions (page 74, Annex A "color errors to be equally weighted...")

With regard to claims 4, 16 and 22, ICC Profile Format discloses configuring at least one of the profiles to account for certain perceptual effects on color appearance (pages 103-104, section "The PCS represents desired color appearances").

With regard to claims 5, 17 and 23, ICC Profile Format discloses the color map comprises at least one of the following: a lookup table, and an equation (pages 52-54, section 6.5.5 Lut16Type).

With regard to claims 6, 18 and 24, Lindbloom discloses storing the color map; detecting respective types of color imaging devices between which a color transformation is to be performed; and in response to the detected types, selecting a stored color map (page 123, section 7.1. Color Mapped Applications).

With regard to claim 7, ICC Profile Format discloses for use in transforming colors between source and destination color imaging systems (page 44, section 6.4.29 Profile). Lindbloom discloses using profiles that characterize the color imaging systems to generate device-independent color values for the source color imaging system, the device-independent color values having a same dimensionality as the source color imaging system page 120, section 6. Algorithm Description); using the profiles to perform a color conversion for converting the

device-independent color values to device-dependent values of the destination color imaging

system (page 117, section 2. Design Goals); and using the color conversion to define a color map

for transforming colors between the color imaging systems (page 123, section 7.2. Full color

raster application).

With regard to claim 8, ICC Profile Format discloses the color conversion is performed at

least twice (page 78, section B2 Embedding ICC Profiles in EPS Files).

With regard to claim 9, ICC Profile Format discloses using the color conversion to

evaluate its accuracy at least once (page 74, Annex A); and revising the color conversion at least

once to improve its accuracy (page 78, Annex B, section B.2).

With regard to claim 10, the rationale provided in the rejections of claim 7 is applicable

thereto. Further, ICC does not disclose using the color conversion to improve the accuracy of the

color conversion relative to a quality threshold, using the color conversion to define a color map

for transforming colors between the color imaging systems. It would have been obvious to one of

ordinary skill in the art to include the concept that ICC Profile Format supports for color

conversions, associated with a screen preview to display a representation of the page description

with accurate colors to satisfy the quality.

With regard to claim 12, Lindbloom discloses for use in transforming colors between first

and second color imaging systems respectively using first and second color coordinate systems, a

color mapping method comprising: generating first device-independent color coordinates as a

function of color coordinates in the first color coordinate system; estimating preliminary color

coordinates in the second color coordinate system generating second device-independent color

coordinates as a function of the preliminary color coordinates; adjusting the preliminary color

coordinates to reduce an error between the first and second device independent color coordinates;

returning to step (a) until the error satisfies a quality threshold; and constructing a color map

describing a relationship between the first and second color imaging systems as a function of the

adjusted color coordinates (page 123, sections 7.1, 7.2).

With regard to claim 13, ICC discloses using the color coordinates in the first color

coordinate system to estimate the preliminary color coordinates (page 78, Annex B, section B.2).

With regard to claim 14, the rationale provided in the rejections of claim 1 is applicable

thereto. Further, Lindbloom discloses a computer arrangement, and a memory (page 117, section

2. c); configured and arranged to store the color map (page 123, section 7.1.).

With regard to claim 19, the rationale provided in the rejections of claims 1 and 14 is

applicable thereto. Further, ICC Profile Format discloses a data storage medium storing a

computer executable program (page 103).

3.   Claims 2, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over ICC

Profile Format in view of Lindbloom, and further in view of Stone et al. ("Color Gamut Mapping

and the Printing of Digital Color Images").

With regard to claims 2, 20 and 21, ICC Profile Format and Lindbloom do not disclose

black channel information. However, Stone discloses recursively reducing differences between

black channel information (page 261, sections 3.3.1, 3.3.2). It would have been obvious to one

ordinary skill in the art to apply the reducing black point of the image to agree with the black

point of the destination device.

3.   Any response to this action should be mailed to

            Commissioner of Patents and Trademarks Office

            Washington, D.C. 20231

    Or faxed to:

            (703) 308-9051, (for formal communications intended for entry)

    Or:

            (703) 305-9724 (for informal or draft communications, please label

            "PROPOSED" or "DRAFT"

    Hand- delivered responses should be brought to Crystal Park II, 2021 Crystal Drive,

Arlington. VA., Sixth Floor (Receptionist).

    Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Kimbinh Nguyen whose telephone number is (703) 305-9683. The examiner

can normally be reached on Monday through Friday From 7:30 a.m. to 5:00p.m. (EST).

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Mark Powell, can be reach on (703)305-9703. However, in such a case, please allow at least one

business day before contacting Mark Powell.
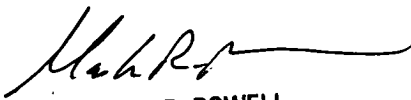
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)305-3900.

Kimbinh Nguyen

March 9, 1999

MARK R. POWELL
SUPERVISORY PATENT EXAMINER
GROUP 2700